



UNITED STATES PATENT AND TRADEMARK OFFICE

mn
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,024	08/21/2003	James Allan Kahle	AUS920030139US1	7352
<div>7590 06/11/2007</div> <div>Gregory W. Carr 670 Founders Square 900 Jackson Street Dallas, TX 75202</div> <div>EXAMINER BUTLER, DENNIS</div> <div>ART UNIT PAPER NUMBER</div> <div>2115</div> <div>MAIL DATE DELIVERY MODE</div> <div>06/11/2007 PAPER</div>				

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/645,024

Applicant(s)

KAHLE ET AL.

Examiner

Dennis M. Butler

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2115

1. This action is in response to the amendment received on April 3, 2007. Claims 16-36 are pending.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.
3. The rejection of claims 25-32 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of applicants amendments to claim 25.
4. Claims 16-23, 25-31 and 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Takashima et al., U. S. Patent Application Publication 2003/0135779.

Per claims 16 and 33:

A) Takashima et al teach the following claimed items:

1. a control register with the register comprising the bus width mode area 148 and the operation mode area 149 of figure 1 and/or the specific register and at paragraphs 65 and 167;
2. determining an idle (unused) status of a subunit (partial calculation units 132 a-c) of the processor based on the control register with bus width mode area 148 and bus width controlling unit 170 of figure 1, with partial calculation units 132 a-c of figure 2 and at paragraphs 13, 65-69 and 76-78;
3. providing a clock signal to the subunit based on the determined idle (unused) status with figures 2 and 3 and at paragraph 69;
4. providing a voltage to the subunit based on the determined idle (unused) status with figure 1 and at paragraph 68.

Per claims 17-23 and 34-36:

Takashima describes including a bus width mode area 148 and an operation mode area 149 in the control register and also describes including a specific register with the same areas at paragraphs 65 and 167. These areas comprise architected bits that indicate the bus width mode in the bus width mode area and architected bits that indicate the operation mode in the operation mode area.

Therefore, the register corresponds to the claimed machine state register.

Takashima describes that the bus width mode area/bits indicate whether the calculation unit operates in an 8-bit, 12-bit or 16-bit mode in paragraph 66.

Takashima describes that the 8-bit, 12-bit or 16-bit bus width modes determine which of the subunits 132 a-c of the calculation unit are active or powered at paragraphs 71 and 76-78. Therefore, at least one bit in the bus width mode area is associated with at least one subunit (partial calculation unit). Takashima describes reading at least one bit associated with at least one subunit with figure 1 and at paragraph 71. Takashima describes setting one or more bits based on an idle (unused) status of a subunit with figure 1 and at paragraphs 60-61 and 66-67. Takashima describes data flow circuitry comprising a plurality of sections with at least one section configured as a subunit with partial calculation units 132 a-c of figure 2 and at paragraphs 76-78. Takashima describes partitioned upper (15:12) and lower (7:0) bit data register circuitry portions configured as a subunit with the registers storing the scrA and scrB data bits (15:0) of figure 2, with figure 8 and at paragraphs 76-78 and 146-148. Takashima describes a partitioned ALU comprising an upper ALU (partial calculation unit 132c) and a lower ALU (partial

calculation unit 132a) configured as subunits with instruction execution unit 130 of figure 1 and at paragraphs 63 and 64.

Per claim 25:

A) Takashima et al teach the following claimed items:

1. a software accessible control register having predetermined bit positions indicating subunits (partial calculation units 132 a-c) of the processor with the register comprising the bus width mode area 148 and the operation mode area 149 of figure 1 and/or the specific register, with figure 2 and at paragraphs 65-67, 76-78 and 167;
2. a local clock buffer coupled to the control register to provide a clock to the subunit based on the predetermined bit position associated with the subunit with frequency control unit 160 of figure 1 and clock gating unit 136 of figure 2 and at paragraphs 69 and 82;
3. a voltage signal coupled to the control register to provide a voltage to the subunit based on the predetermined bit position associated with the subunit at paragraph 68.

Regarding the predetermined bit positions indicating subunits, Takashima describes including a bus width mode area 148 and an operation mode area 149 in the control register and also describes including a specific register with the same areas at paragraphs 65 and 167. These areas comprise predetermined bit positions that indicate the bus width mode in the bus width mode area and predetermined bit positions that indicate the operation mode in the operation

mode area. Takashima describes that the bus width mode area/bit positions indicate whether the calculation unit operates in an 8-bit, 12-bit or 16-bit mode in paragraph 66. Takashima describes that the 8-bit, 12-bit or 16-bit bus width mode bit positions determine which of the subunits 132 a-c of the calculation unit are active or powered at paragraphs 71 and 76-78. Therefore, the predetermined bit positions in the bus width mode area indicate subunits (partial calculation units).

Per claims 26-31:

Takashima describes including a bus width mode area 148 and an operation mode area 149 in the control register and also describes including a specific register with the same areas at paragraphs 65 and 167. These areas comprise architected bits that indicate the bus width mode in the bus width mode area and architected bits that indicate the operation mode in the operation mode area.

Therefore, the register corresponds to the claimed machine state register.

Takashima describes that the bus width mode area/bits indicate whether the calculation unit operates in an 8-bit, 12-bit or 16-bit mode in paragraph 66.

Takashima describes that the 8-bit, 12-bit or 16-bit bus width modes determine which of the subunits 132 a-c of the calculation unit are active or powered at paragraphs 71 and 76-78. Therefore, at least one bit in the bus width mode area is associated with at least one subunit (partial calculation unit). Takashima describes reading at least one bit associated with at least one subunit with figure 1 and at paragraph 71. Takashima describes setting one or more bits based on

Art Unit: 2115

an idle (unused) status of a subunit with figure 1 and at paragraphs 60-61 and 66-67. Takashima describes data flow circuitry comprising a plurality of sections with at least one section configured as a subunit with partial calculation units 132 a-c of figure 2 and at paragraphs 76-78. Takashima describes partitioned upper (15:12) and lower (7:0) bit data register circuitry portions configured as a subunit with the registers storing the scrA and scrB data bits (15:0) of figure 2, with figure 8 and at paragraphs 76-78 and 146-148. Takashima describes a partitioned ALU comprising an upper ALU (partial calculation unit 132c) and a lower ALU (partial calculation unit 132a) configured as subunits with instruction execution unit 130 of figure 1 and at paragraphs 63 and 64.

5. Claims 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima et al., U. S. Patent Application Publication 2003/0135779.

Per claims 24 and 32:

Takashima teaches the elements of claims 16 and 25 as described in the above rejection. The claims differ from Takashima in that Takashima fails to explicitly teach the processor comprising a floating point unit (FPU) configured as a subunit as claimed. However, Takashima describes that the processor comprises calculation circuits such as arithmetic circuits including adding and multiplying circuits and logic circuits with instruction execution unit 130 of figure 1 and at paragraphs 63 and 64. FPUs are a well known component of processor and it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a FPU as a subunit of the

processor, in view of Takashima's teaching of including a multiplying circuit, in order to perform floating point operations.

6. The affidavit filed on April 3, 2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the Takashima reference.

The evidence submitted is insufficient to establish applicant's alleged actual reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Takashima reference.

Insofar as applicant is relying on the invention disclosure to establish reduction to practice, a written description does not constitute an actual reduction to practice.

Furthermore, only the filing of a US patent application which complies with the

disclosure requirement of 35 USC 112 constitutes a **constructive** reduction to practice.

A written description, no matter how complete, does not qualify as an actual reduction to

practice. Establishment of actual reduction to practice requires applicant to show that

applicant constructed an embodiment or performed a process that met every claimed

element and the embodiment or process operated for its intended purpose. **Testing is**

required to establish an actual reduction to practice. See MPEP 715.07 and 2138.05.

Therefore, the evidence submitted is insufficient to establish an actual reduction to

practice of the invention because it does not establish that testing was performed and

the embodiment or process operated for its intended purpose.

7. Applicant's arguments filed on April 3, 2007 have been fully considered but they are not persuasive.

Art Unit: 2115

In the Remarks, applicant has argued in substance that: the Takashima reference is unavailable as a prior art reference because applicant's 131 affidavit establishes a reduction to practice prior to Takashima's filing date. However, the evidence submitted is insufficient to establish a reduction to practice as described above in paragraph 6. Therefore, Takashima is available as a prior art reference.

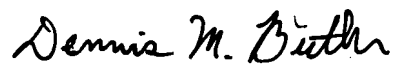
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis M. Butler whose telephone number is 571-272-3663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2115

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dennis M. Butler
Primary Examiner
Art Unit 2115